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OCCUPATIONAL EMPLOYMENT AND WAGES IN WASHINGTON AND BALTIMORE, MAY 2004

Workers in the Washington, D.C. metropolitan area had an average (mean) hourly wage rate of $23.10 per hour in May 2004, 29.8 percent above the nationwide average of $17.80, according to the U.S. Department of Labor's Bureau of Labor Statistics. For the same period, the Baltimore, Md., metropolitan area had a mean hourly wage rate of $19.17, 7.7 percent above the national average. Regional Commissioner Sheila Watkins noted that Washington area wage rates for all 22 major occupational categories were notably higher than the national averages for these same groups. However, in the Baltimore area, wage rates were significantly higher in only 7 of the 22 categories (healthcare practitioners and technical; computer and mathematical; farming, fishing, and forestry; healthcare support; office and administrative support; production; and food preparation and serving related) and significantly below average in 4 other occupations (legal; management; arts, design, entertainment, sports, and media; and construction and extraction).

These statistics for wage and salary workers are from the Occupational Employment Statistics (OES) survey, a federal-state cooperative program between BLS and State Workforce Agencies. The OES survey provides estimates of employment, hourly wages, and annual wages for 22 major occupational groups and up to 801 detailed occupations for the nation, the states, and 334 metropolitan areas.

Legal and management occupations were the two highest-paying occupational groups in the Washington area in May 2004, with workers earning $46.81 and $45.92 per hour, respectively. These two occupations were also the highest-paying nationwide, averaging $41.12 for management jobs and $38.42 for legal occupations. In the Baltimore area, management jobs paid the top wage rate, averaging $38.83 per hour, followed by computer and mathematical occupations at $34.67. The food preparation and serving related occupation was the lowest-paid group in both Washington ($9.17) and Baltimore ($8.82) as well as in the U.S. ($8.43). (See chart 1.)

In a comparison of wage rates across the two areas, workers in Washington had significantly higher wages than their counterparts in Baltimore in 15 of the 22 occupational categories. As so often happens, the largest differences were found in the generally higher-paying management and professional occupations,, particularly the legal, and life, physical, and social science occupations, with Washingtonians earning $14.44 and $10.79 per hour more, respectively, than their counterparts in Baltimore. However, wages were also appreciably higher in occupations such as construction and extraction, and production; and service occupations such as personal care and service, and building and grounds cleaning and maintenance. The seven occupational groups with less than notable wage differences between the two metropolitan areas were: health care practitioners and technical; education, training, and library; protective service; transportation and material moving; farming, fishing, and forestry; computer and mathematical; and healthcare support. (See table 1.)

Chart 1. Average hourly wages by major occupational group, United States, the Baltimore metropolitan area, and the Washington metropolitan area, May 2004

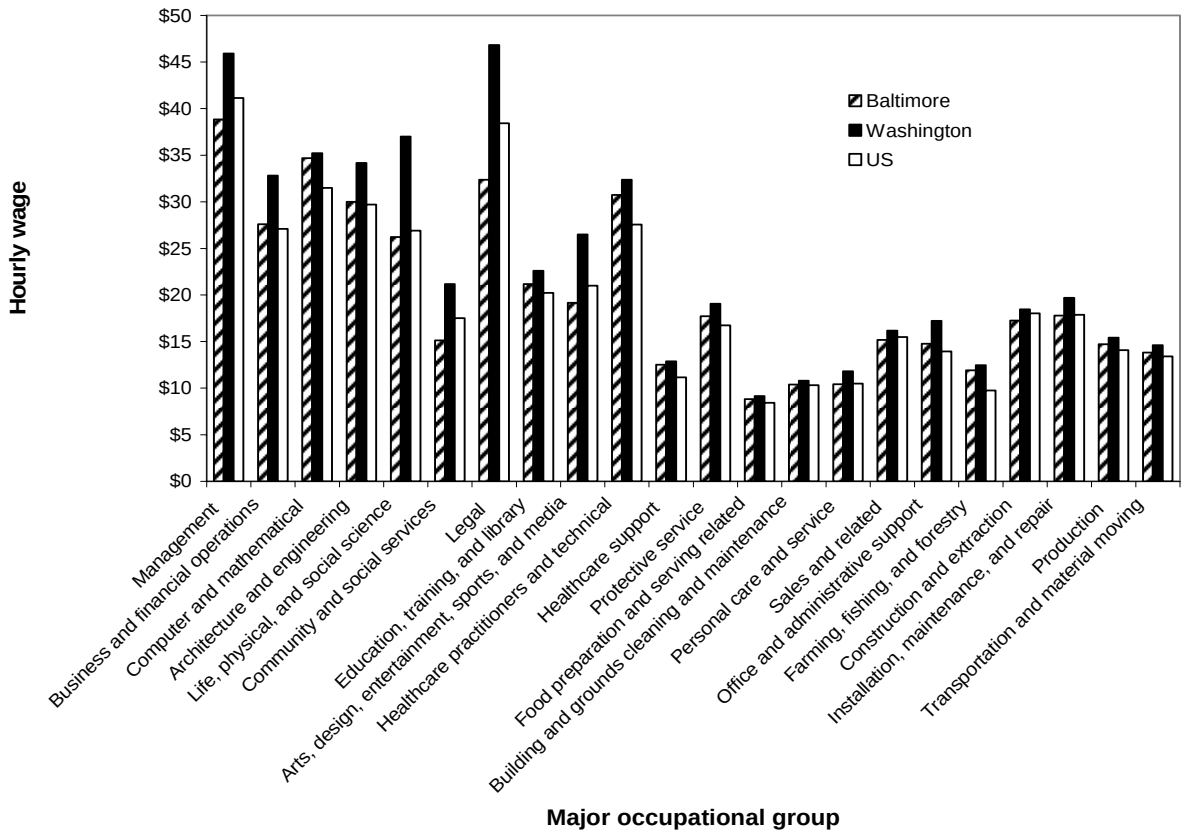
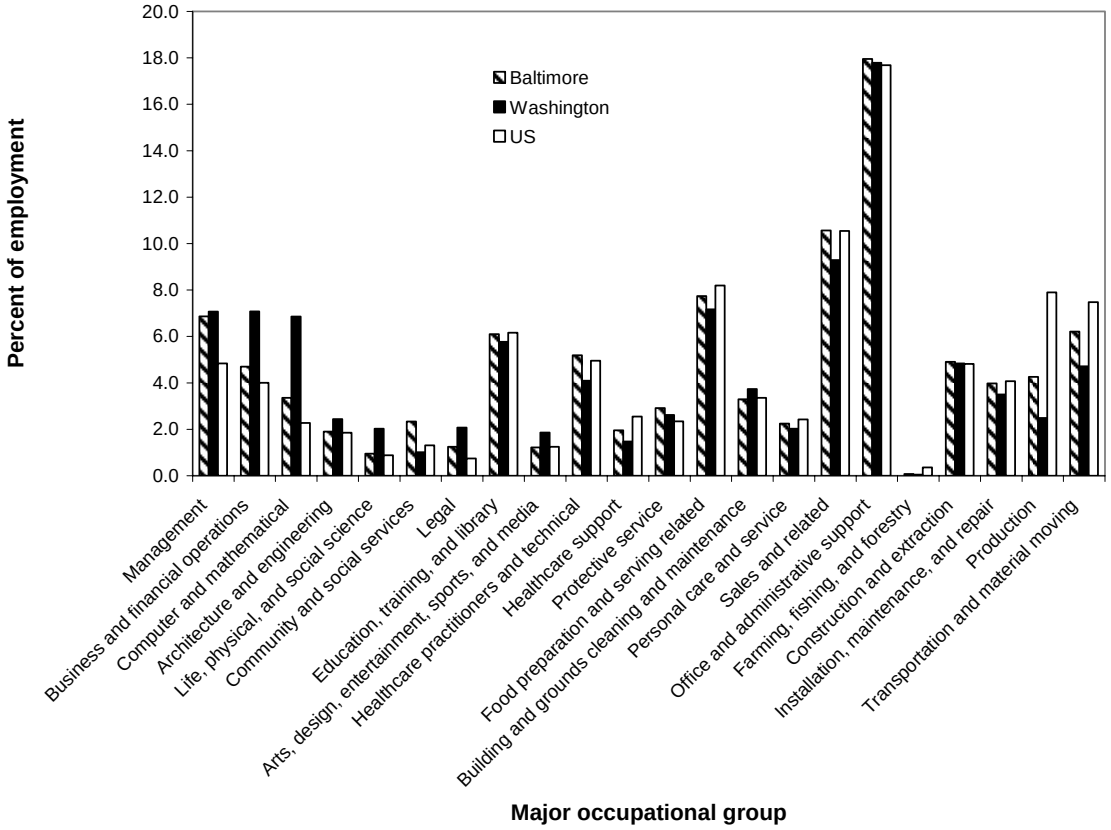


Table 1. Average hourly wages by major occupational group, United States, the Baltimore metropolitan area, and the Washington metropolitan area, May 2004

Major occupational groups	Average hourly wage		
	United States	Baltimore	Washington
All Occupations	$17.80	$19.17	$23.10
Management occupations	$41.12	$38.83	$45.92
Business and financial operations occupations	$27.10	$27.59	$32.82
Computer and mathematical occupations	$31.50	$34.67	$35.20
Architecture and engineering occupations	$29.69	$30.00	$34.18
Life, physical, and social science occupations	$26.89	$26.22	$37.01
Community and social services occupations	$17.52	$15.14	$21.16
Legal occupations	$38.42	$32.37	$46.81
Education, training, and library occupations	$20.23	$21.18	$22.60
Arts, design, entertainment, sports, and media occupations	$21.01	$19.17	$26.48
Healthcare practitioners and technical occupations	$27.55	$30.73	$32.35
Healthcare support occupations	$11.17	$12.53	$12.88
Protective service occupations	$16.75	$17.72	$19.06
Food preparation and serving related occupations	$8.43	$8.82	$9.17
Building and grounds cleaning and maintenance occupations	$10.33	$10.38	$10.80
Personal care and service occupations	$10.48	$10.41	$11.81
Sales and related occupations	$15.49	$15.18	$16.17
Office and administrative support occupations	$13.95	$14.77	$17.23
Farming, fishing, and forestry occupations	$9.76	$11.91	$12.47
Construction and extraction occupations	$18.04	$17.26	$18.47
Installation, maintenance, and repair occupations	$17.89	$17.78	$19.70
Production occupations	$14.08	$14.72	$15.42
Transportation and material moving occupations	$13.41	$13.82	$14.62

When comparing the compositions of the workforces across the two areas, geographically-specific industries can help to determine which occupational categories have significantly higher employment shares. For example, the federal government is a key industry in the Washington area, employing a wide range of professional and related workers. Significantly higher shares were found in the D.C. area for the computer and mathematical; life, physical, and social science; legal; arts, design, entertainment, sports, and media; and architecture and engineering occupational groups; business and financial operations were overrepresented as well. On the other hand, compared to Baltimore, Washington had significantly fewer production; transportation and material moving; and installation, maintenance, and repair workers. Interestingly, the percentages of production jobs in both Washington and Baltimore were below the national share. Still, there were some similarities in the employment distributions of workers in Baltimore and Washington, with several occupations being equally represented in both areas including management; education, training, and library; protective service; office and administrative support; and construction and extraction. (See chart 2.)

Chart 2. Occupational employment as a share of total employment, United States, the Baltimore metropolitan area, and the Washington metropolitan area, May 2004



The largest major occupational group in both the Washington and Baltimore areas was office and administrative support, with a total of 490,930 and 223,250 workers, respectively; nationally it was also the largest group employing 22,649,080. The shares of workers employed in office and administrative support occupations in the Washington and Baltimore metropolitan areas were nearly identical to the share employed nationally, which was about 18 percent. The second-largest occupational group in both metropolitan areas, as well as the nation, was sales and related occupations. The share of workers employed in sales and related jobs in the Baltimore area (10.6 percent) was similar to that for the nation (10.5 percent); however, the presence of sales and related jobs in the Washington area was notably lower (9.3 percent).

As noted, one occupational group, production workers, was noticeably underrepresented in both the Washington and Baltimore metropolitan areas compared to the national share. Nationally, 7.9 percent of the workforce was employed in this line of work; however, only 2.5 percent of Washingtonians and 4.3 percent of workers in Baltimore held production jobs. On the other hand, management jobs were overrepresented in these metropolitan areas, with both employing around 7.0 percent of the workforce compared to a 4.8-percent share nationwide. (See table 2.)

Table 2. Employment by major occupational group, United States, the Baltimore metropolitan area, and the Washington metropolitan area, May 2004

Major Occupational Group	Employment as a percent of total		
	United States	Washington	Baltimore
Total	100.0	100.0	100.0
Management	4.8	7.1	6.9
Business and financial operations	4.0	7.1	4.7
Computer and mathematical	2.3	6.9	3.4
Architecture and engineering	1.9	2.4	1.9
Life, physical, and social science	0.9	2.0	1.0
Community and social services	1.3	1.0	2.3
Legal	0.8	2.1	1.3
Education, training, and library	6.2	5.8	6.1
Arts, design, entertainment, sports, and media	1.3	1.9	1.2
Healthcare practitioners and technical	5.0	4.1	5.2
Healthcare support	2.6	1.5	2.0
Protective service	2.4	2.6	2.9
Food preparation and serving related	8.2	7.2	7.7
Building and grounds cleaning and maintenance	3.4	3.7	3.3
Personal care and service	2.4	2.0	2.3
Sales and related	10.5	9.3	10.6
Office and administrative support	17.7	17.8	18.0
Farming, fishing, and forestry	0.4	0.1	0.1
Construction and extraction	4.8	4.8	4.9
Installation, maintenance, and repair	4.1	3.5	4.0
Production	7.9	2.5	4.3
Transportation and material moving	7.5	4.7	6.2

Technical Note

The Occupational Employment Statistics (OES) survey is a semiannual mail survey measuring occupational employment and wage rates for wage and salary workers in nonfarm establishments in the United States. Guam, Puerto Rico, and the Virgin Islands also are surveyed, but their data are not included in this release. Data are collected from panels of about 200,000 establishments each in May and November. Estimates from the program use data collected over a 3-year (six-panel) period and are based on a national sample of about 1.2 million establishments. The nationwide response rate for the May 2004 survey was 78.8 percent for establishments, covering 72.7 percent of weighted employment. The survey included establishments sampled in the May 2004, November 2003, May 2003, November 2002, and 2001 panels, in addition to some certainty units from the 2000 sample.

The occupational coding system:

The OES survey uses the Office of Management and Budget's (OMB) occupational classification system, the Standard Occupational Classification (SOC) system. The SOC system is the first OMB-required occupational classification system for federal agencies. The OES survey categorizes workers in 1 of 801 detailed occupations. Together, these detailed occupations comprise 23 major occupational groups, one of which--military specific occupations--is not included in the OES survey. The major groups are as follows:

Management occupations
Business and financial operations occupations
Computer and mathematical science occupations
Architecture and engineering occupations
Life, physical, and social science occupations
Community and social services occupations
Legal occupations
Education, training, and library occupations
Arts, design, entertainment, sports, and media occupations
Healthcare practitioner and technical occupations
Healthcare support occupations
Protective service occupations
Food preparation and serving related occupations
Building and grounds cleaning and maintenance occupations
Personal care and service occupations
Sales and related occupations
Office and administrative support occupations
Farming, fishing, and forestry occupations
Construction and extraction occupations
Installation, maintenance, and repair occupations
Production occupations
Transportation and material moving occupations
Military specific occupations (not surveyed in OES)

For more information about the SOC system, please see the Bureau of Labor Statistics (BLS) Web site at http://www.bls.gov/soc.

The industry coding system:

The OES survey uses the North American Industry Classification System (NAICS). For more information about NAICS, see the BLS Web site at http://www.bls.gov/bls/naics.htm.

The OES survey includes establishments in NAICS sectors 11 (logging and agricultural support activities only), 21, 22, 23, 31-33, 42, 44-45, 48-49, 51, 52, 53, 54, 55, 56, 61, 62, 71, 72, 81 (except private households), state government, and local government. Data for the United States Postal Service and the federal government are universe counts obtained from the Postal Service and the Office of Personnel Management, respectively. An establishment is defined as an economic unit that processes goods or provides services, such as a factory, mine, or store. The establishment is generally at a single physical location and is engaged primarily in one type of economic activity.

The OES survey covers all full- and part-time wage and salary workers in nonfarm industries. The survey does not include the self-employed owners and partners in unincorporated firms, household workers, or unpaid family workers.

Survey sample

BLS funds the survey and provides the procedures and technical support, while the State Workforce Agencies (SWAs) collect most of the data. BLS produces cross-industry and industry-specific estimates for the nation, states, and metropolitan statistical areas (MSAs). Industry estimates are produced for the NAICS sector, 3-digit, 4-digit, and selected 5-digit industry levels. BLS releases all cross-industry and national estimates, and the SWAs release industry estimates at the state and MSA levels.

State Unemployment Insurance (UI) files provide the universe from which the OES survey draws its sample. The employment benchmarks are obtained from reports submitted by employers to the UI program. Supplemental sources are used for rail transportation (NAICS 4821) and Guam because they do not report to the UI program. The OES survey sample is stratified by area, industry, and size class. Size classes are defined based on number of employees in the establishment as follows:

Size class	Number of employees
1	1 to 4
2	5 to 9
3	10 to 19
4	20 to 49
5	50 to 99
6	100 to 249
7	250 and above

A census of federal government and the post office is taken every panel. A census of state government and Hawaii's local government is taken every November panel. Units in rail transportation (NAICS 482) and hospitals (NAICS 622) are sampled with certainty across a 3-year period. Establishments with 250 or more employees also are sampled with virtual certainty across a 3-year period; on average, one-sixth of these are sampled in each panel.

Concepts:

Occupational employment is the estimate of total wage and salary employment in an occupation across the industries surveyed. The OES survey defines employment as the number of workers who can be classified as full-or part-time employees, including workers on paid vacations or other types of paid leave; workers on unpaid short-term absences; salaried officers, executives, and staff members of incorporated firms; employees temporarily assigned to other units; and employees for whom the reporting unit is their permanent duty station regardless of whether that unit prepares their pay-check.

The OES survey forms sent to larger establishments contain between 50 and 225 SOC occupations selected on the basis of the sampled establishment's industry classification. To reduce paperwork and respondent burden, no survey form contains every SOC occupation. Thus, data for specific occupations are collected primarily from establishments in industries that are the predominant employers of workers in those occupations. Each survey form is structured, however, to allow a respondent to provide detailed occupational information for each worker at the establishment; that is, unlisted occupations can be added to the survey form. In most cases, employers with 9 or fewer workers are sent a form with no occupations listed, and are instructed to fill in the occupations for their workers.

Wages for the OES survey are straight-time, gross pay, exclusive of premium pay. Base rate, cost-of-living allowances, guaranteed pay, hazardous-duty pay, incentive pay including commissions and production bonuses, tips, and on-call pay are included. Excluded are back pay, jury duty pay, overtime pay, severance pay, shift differentials, non-production bonuses, employer cost for supplementary benefits, and tuition reimbursements.

The OES survey collects wage data in 12 intervals. Employers report the number of employees in an occupation for each wage range. The wage intervals used for the May 2004 survey are as follows:

Interval	Wages	
	Hourly	Annual
Range A	Under $6.75	Under $14,040
Range B	$6.75 to $8.49	$14,040 to $17,679
Range C	$8.50 to $10.74	$17,680 to $22,359
Range D	$10.75 to $13.49	$22,360 to $28,079
Range E	$13.50 to $16.99	$28,080 to $35,359
Range F	$17.00 to $21.49	$35,360 to $44,719
Range G	$21.50 to $27.24	$44,720 to $56,679
Range H	$27.25 to $34.49	$56,680 to $71,759
Range I	$34.50 to $43.74	$71,760 to $90,999
Range J	$43.75 to $55.49	$91,000 to $115,439
Range K	$55.50 to $69.99	$115,440 to $145,599
Range L	$70.00 and over	$145,600 and over

Mean hourly wage. The mean hourly wage rate for an occupation is the total wages that all workers in the occupation earn in an hour divided by the total employment of the occupation. To calculate the mean hourly wage of each occupation, total weighted hourly wages are summed across all intervals and divided by the occupation's weighted survey employment. The mean wage for each interval is based on occupational wage data collected by the BLS Office of Compensation and Working Conditions for the National Compensation Survey (NCS).

The mean hourly wage value for the highest wage interval, $70.00 and over, was computed separately for each panel or annual sample (May 2004, November 2003, May 2003, November 2002, and 2001). The average of these mean wage rates was used for all of the $70.00 and over data in the May 2004 survey. The wage rates for this interval do not go through any wage updating procedures.

Percentile wage. The p-th percentile wage range for an occupation is the wage where p percent of all workers earn that amount or less and where (100-p) percent of all workers earn that amount or more. This statistic is calculated by uniformly distributing the workers inside each wage interval, ranking the workers from lowest paid to highest paid, and calculating the product of the total employment for the occupation and the desired percentile to determine the worker that earns the p-th percentile wage rate.

Annual wage. Many employees are paid at an hourly rate by their employers and may work more than or less than 40 hours per week. Annual wage estimates for most occupations in this release are calculated by multiplying the mean hourly wage by a "year-round, full-time" figure of 2,080 hours (52 weeks by 40 hours). Thus, annual wage estimates may not represent the actual annual pay received by the employee if they work more or less than 2,080 hours per year. Some workers typically work less than full time, year round. For these occupations, the OES survey collects and reports either the annual salary or the hourly wage rate, depending on how the occupation is typically paid, but not both. For example, teachers, flight attendants, and pilots may be paid an annual salary, but do not work the usual 2,080 hours per year. In this case, an annual salary is reported. Other workers, such as entertainment workers are paid hourly rates, but generally do not work full time, year round. For these workers, only an hourly wage is reported.

Hourly versus annual wage reporting. For each occupation, respondents are asked to report the number of employees paid within specific wage intervals. The intervals are defined both as hourly rates and the corresponding annual rates, where the annual rate for an occupation is calculated by multiplying the hourly wage rate by a typical work year of 2,080 hours. The responding establishment can reference either the hourly or the annual rate for full-time workers, but they are instructed to report the hourly rate for part-time workers.

Estimation methodology:

Each OES panel includes approximately 200,000 establishments. While estimates can be made with data from one panel or one year, the OES survey is designed to produce estimates using six panels (3 years) of data. The full six-panel sample of 1.2 million establishments nationwide allows the production of estimates at detailed levels of geography, industry, and occupation. Combining six panels of data is also necessary to obtain the full complement of certainty establishments. (Note: The first semiannual panel was in November 2002. Prior to that, about 400,000 establishments were surveyed annually. Each earlier sample is a two-panel equivalent.)

Wage updating. Significant reductions in sampling errors are obtained by combining six panels of data, particularly for small geographic areas and occupations. Wages for the current panel need no adjustment. However, wages in the five previous panels need to be updated to the current panel's reference period.

The OES program uses the BLS Employment Cost Index (ECI) to adjust survey data from prior panels before combining them with the current panel's data. The wage updating procedure adjusts each detailed occupation's wage rate, as measured in the earlier panel, according to the average movement of its broader occupational division. The procedure assumes that there are no major differences by geography, industry, or detailed occupation within the occupational division.

Imputation. Over 20 percent of establishments do not respond for a given panel. A "nearest neighbor" hot deck imputation procedure is used to impute occupational employment totals. A variant of mean imputation is then used to impute a wage distribution for each occupation. The variant of mean imputation for wage distributions is also applied to establishments that provide reports with occupational totals but partial or missing wage data.

Weighting and benchmarking. The sample establishments in each panel are weighted to represent all establishments that were part of the in-scope frame from which the panel was selected. Based on the sampled establishments, weights are adjusted when six panels are combined. Weights are adjusted by benchmarking employment totals from the OES survey to employment figures derived from the BLS Quarterly Census of Employment and Wages.

May 2004 OES survey estimates. The May 2004 OES survey estimates are based on all data collected from establishments in the May 2004, November 2003, May 2003, November 2002, and 2001 samples, in addition to some certainty units from the 2000 sample. During estimates processing, OES employment data were benchmarked to the average employment for May 2004 and November 2003 from the BLS Quarterly Census of Employment and Wages.

Reliability of the estimates. Estimates calculated from a sample survey are subject to two types of error: sampling and nonsampling. Sampling error occurs when estimates are calculated from a subset (i.e., sample) of the population instead of the full population. When a sample of the population is surveyed, there is a chance that the sample estimate of the characteristic of interest may differ from the population value of that characteristic. Differences between the sample estimate and the population value will vary depending on the sample selected. This variability can be estimated by calculating the standard error (SE) of the sample estimate. If we were to repeat the sampling and estimation process countless times using the same survey design, approximately 90 percent of the intervals created by adding and subtracting 1.645 SEs from the sample estimate would include the population value. These intervals are called 90-percent confidence intervals. The OES survey, however, usually uses the relative standard error (RSE) of a sample estimate instead of its SE to measure sampling error. RSE is defined as the SE of a sample estimate divided by the sample estimate itself. This statistic provides the user with a measure of the relative precision of the sample estimate. RSEs are calculated for both occupational employment and mean wage rate estimates. Occupational employment RSEs are calculated using a subsample, random group replication technique called the jackknife. Mean wage rate RSEs are calculated using a variance components model that accounts for both the observed and unobserved components of the wage data. The variances of the unobserved components are estimated using wage data from the BLS National Compensation Survey. In general, estimates based on many establishments have lower RSEs than estimates based on few establishments. If the distributional assumptions of the models are violated, the resulting confidence intervals may not reflect the prescribed level of confidence.

Nonsampling error occurs for a variety of reasons, none of which are directly connected to sampling. Examples of nonsampling error include: nonresponse, data incorrectly reported by the respondent, mistakes made in entering collected data into the database, and mistakes made in editing and processing the collected data.

Additional information:

The May 2004 OES national data by occupation, comparable to data in table 1, will be available soon on the BLS Web site at http://www.bls.gov/oes. Users also may access each occupation's definition and percentile wages. The May 2004 cross-industry data for states and metropolitan areas will be available on the BLS Web site in early June 2005. Industry staffing patterns at the sector, 3-, 4-, and selected 5-digit NAICS levels also will be available from the Internet beginning in early June 2005. These data will include industry-specific occupational employment and wage data.

Complete survey results are available from the Mid-Atlantic Information Office by calling 215-597-3282 or by e-mailing BLSinfoPhiladelphia@bls.gov. Information in this release will be made available to sensory impaired individuals upon request. Voice phone: 202-691-5200; TDD message referral phone number: 1-800-877-8339.

More detailed Standard Occupational Classification (SOC) Major Groups for the Baltimore metropolitan area and the Washington metropolitan area are available on the Web site at http://www.bls.gov/oes/current/oessrcma.htm. An example of the level of detail available is provided below:

Employment and wage data from the Occupational Employment Survey, by management occupations, Washington, D.C. metropolitan area, May 2004

Occupation Title	Employment	Wage Estimates		
		Median hourly	Mean Hourly	Mean Annual
Management occupations	194,990	$43.00	$45.92	$95,520
Chief executives	8,280	67.77	68.36	142,180
General and operations managers	56,820	44.92	50.65	105,350
Advertising and promotions managers	2,070	32.20	36.26	75,430
Marketing managers	4,950	42.90	45.16	93,930
Sales managers	7,150	37.59	43.23	89,920
Public relations managers	2,560	39.59	42.81	89,040
Administrative services managers	12,990	30.79	33.69	70,070
Computer and information systems managers	14,290	50.18	51.42	106,940
Financial managers	13,780	43.30	45.67	95,000
Compensation and benefits managers	1,690	31.40	34.07	70,860
Training and development managers	1,390	36.19	41.34	85,990
Human resources managers, all other	2,380	47.14	47.48	98,750
Industrial production managers	950	35.27	38.66	80,410
Purchasing managers	2,320	45.69	44.48	92,520
Transportation, storage, and distribution managers	1,640	37.48	39.42	82,000
Farm, ranch, and other agricultural managers	50	28.89	26.71	55,570
Construction managers	7,150	36.61	39.55	82,260
Education administrators, preschool and child care center/program	1,320	18.48	19.29	40,110
Education administrators, postsecondary	2,540	26.68	30.67	63,800
Education administrators, all other	1,100	36.00	35.23	73,270
Engineering managers	6,160	51.80	52.75	109,720
Food service managers	3,420	20.47	22.75	47,320
Funeral directors	230	24.55	27.24	56,660
Lodging managers	540	20.54	26.01	54,100
Medical and health services managers	4,590	35.74	38.92	80,950
Natural sciences managers	3,330	49.64	48.14	100,140
Postmasters and mail superintendents	210	26.13	26.46	55,030
Property, real estate, and community association managers	4,530	26.24	31.59	65,710
Social and community service managers	3,190	26.17	32.58	67,770
Managers, all other	18,790	50.72	50.13	104,270